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TABLE OF CONTENTS

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ADDRESS

Bone Setters, Osteopaths and Physical Therapeutics. *By E. H. Bradford, M.D.,* Boston. 267

ORIGINAL ARTICLES

Primary Syphilis. *By C. Guy Lane, M.D.,* Boston. 272
Rectal Abscesses and Their Treatment. *By T. Chittenden Hill, M.D.,* Boston. 278
The Energy Requirements of Girls from 12 to 17 Years of Age (*Continued*). *By Francis G. Benedict and Mary F. Hendry,* Boston. 282

BOOK REVIEW

A Physician's Anthology of English and American Poetry. By Casey A. Wood, M.D., and Fielding H. Garrison. 286

EDITORIAL

The Typhus Situation. 287
Medical Notes. 288

CORRESPONDENCE

Anti-Vaccination Propaganda in the Press. *George V. N. Dearborn,* Boston. 290
Physicians and the Telephone. *M. J. Konikow, M.D.,* Roxbury, Mass. 290

MISCELLANY

Notices, Marriage. 290

Address

BONE SETTERS, OSTEOPATHS AND PHYSICAL THERAPEUTICS.

By E. H. Bradford, M.D., Boston.

Time was, and not so long ago, when medical practice was based largely upon conjectures. Drugs were given because for a long time they were supposed to do good. Blood-letting removed peccant humors, sarsaparilla purified the blood, and alcohol was believed to act as a tonic.

It is hoped that medicine has definitely outgrown this stage of loose thinking and superstition, and attempts now to reason clearly from demonstrated facts. But the general public is slow to give up the idea that the art of healing is a power inherent in certain individuals. Many a man who would never think of asking a "divine healer" to mend a damaged motor car will not hesitate to give to an untrained man of assurance the responsibility of treating symptoms of faulty metabolism or malignant disease.

There is often a belief among the laity that physicians are bigoted, prejudiced and not ready to receive the ideas of untutored minds, who claim to get results by unacademic ways. Perhaps this is the reason why the bone-setter, the osteopath, often had and have vogue, or can it be that the art of surgery is still incomplete and that there still remain some gaps not yet filled in which empiricism flourishes. Owing to the remarkable development of surgery, the demand upon the surgeon for serious operative undertakings has been so great that he is forced to turn from many minor methods of relief. In the days of Ambrose Paré the surgeon dressed wounds empirically. Today he oper-operates on shielded tissue and leaves repair to the *vis medicatrix naturae.* Perhaps the chiropractic practitioner may be right in claiming his title in thinking that the work of the hand properly directed may be of service in restoring function.

Of all the unacademized practitioners, the "bone-setter" enjoyed the best name. There is an Anglo-Saxon directness in the term which should prompt the sufferer to claim the aid of a proficient and there may be surprise that bone-setters have been euphemistically supplanted by those using as their appellation the badly coined word, "osteopath." In the preanesthetic days the reduction of dislocations and the setting of broken bones required hardihood and experience, not easily acquired by ordinary medical men in country districts. It is not strange that the father who had worked out useful grips and manipulations should have taught the secrets of his art to his son or to apprentices and should claim preëminence..

Bone-setters were originally more common in England than in this country. The few who formerly practised here are in many places forgotten and it is difficult to learn whether their practice was the same as that of their more prominent English colleagues. The art was chiefly an English art, developed under existing conditions of English practice somewhat different from those in this country, when anyone could practise medicine with the title of doctor, without a medical training or degree. By men of this character the dignified self-given title of doctor would be more attractive than that of bone-setter, which limits the claim of medical knowledge.

Now that the medical degree is only earned in this country after a thorough education and training, the non-medically educated manipulating practitioner desiring to give to his work a cloak of learning, calls himself a chiropractor or an osteopath.

Judging from the testimony of contemporary English medical writers, much of the work of the bone-setter was of service. He was at least honest in the claim of his title. The form of manipulative treatment known as osteopathy has no relation to the English practice of bone setting, and apparently originated independently. It claims, however, to replace partially dislocated bones and in this way to cure many affections formerly treated by bone-setters.

The extravagant claims made for success and the evidence of lack of anatomical, physiological and pathological knowledge shown by the proficients of osteopathy, justified at the outset an unfavorable opinion of the new art in the minds of trained physicians.

An attempt to cure bronchitis or pneumonia by an osteopathic hug, replacing a dislocated rib, pressing on a nerve, does not commend itself as rational treatment in the minds of educated physicians. But a practice which has been accepted in many communities to the extent of recognition in some states as an authorized method of treatment, must have some reason for its existence and acceptance other than novelty. Homeopathy, the delusion denounced by the past medical generation was justified by the crude therapeutics of the regular medical practitioners of the day. The public preferred to be drugged agreeably, to be given either no medicine or to receive it in agreeable rather than in nauseous doses, when the resulting benefit was apparently no better from the latter treatment. The sick man cares little for scientific theory if his mental or physical comfort is improved by his doctor. In the days of polypharmacy, homeopathy flourished. Perhaps the vogue of osteopathy may be, in part, due to a tendency to polysurgery, *i.e.*, excessive operation. A sufferer from rheumatic pains may naturally prefer to be manipulated by non-mutilating methods than to have all his teeth extracted or his tonsils removed. Exploratory laparotomies may be rarely fatal and often lead to precision in diagnosis, but are sometimes found to have been unnecessary and to be avoided.

Dr. Sayre, the pioneer American orthopedic surgeon, frequently said that a study of the pathology of the joint ligaments was needed as a guide for the better treatment of many of the joint affections. In fact, too little is known not only of the pathology of ligamentous tissue, but also of the normal histological changes, under strain, of action in fascial and periarticular tissue. Ligaments vary in their elasticity, as they are or are not properly used, in the same manner as is true of muscular tissue.

It is known that joints kept unused for some time by fixating appliance become stiffened. There may even be a loss of elasticity of the joint ligaments which may result in a practical ankylosis if joints are kept stiff for a prolonged period. It is probable that under compression and prolonged rest there is an atrophy of ligamentous and fascial tissue and perhaps also a degenerative change with an increase of the fibrous rather than the elastic elements. It is certainly true that on training and practice, an increased suppleness of the joint may be developed, probably from added elasticity of the periarticular and ligamentous tissues as well as of relaxing ability of checking muscles. A corresponding increase of blood flow occurs in ligamentous, as in muscular tissue under exercise. Joint tissue needs function for healthy condition, otherwise degeneration may take place. Muscular tissue needs exercise; if disused it atrophies. Ligamentous tissue and fasciae similarly need the strain of use to prevent degenerative weakening.

The surgical profession of the last generation practised under the belief that a painful joint always needed rest. Experience has shown that there are important exceptions to this rule of practice, which, correct in the acute stages of joint troubles, is unsound after convalescence has been established. In the stage of recovery it is a truth that the joint needs function. Massage and electricity alone, though beneficial, are not sufficient as therapeutic measures in badly stiffened periarticular tissues, nor will simply the exercise of muscle suffice to restore normal conditions. It must always be remembered that the arc of normal motion in most joints exceed those of ordinary motion, and that a joint which may move within a certain distance without discomfort will suffer strain on some of the periarticular ligaments if the arc of motion is increased over that ordinarily used. The same is true of other ligamentous tissue, broad fasciae or inter-muscular fascial fibres and bands.

Strains may occur following exertion formerly harmless, but which have become injurious from tissue changes in muscles or ligaments. In many instances the strain is slight and at first hardly noticed, but later giving rise to pain on movements. This condition is often attributed to other causes than a slight strain and may be regarded as rheumatic. It is evident that where this condition exists, fixation of the joint, though protecting the joint from further strain, and temporarily needed where the pain is severe, cannot be a curative principle of treatment. The ligamentous tissue must be protected from further degeneration by what may be termed protected use. Simply moving a limb is not sufficient. It must be moved in such a way as to bring sufficient strain and not too much upon the affected and not normal ligaments.

There are many ways in which therapeutic ligament and fascia stretching has been attempted; in some instances without a precise understanding of what was done, but with the belief that "movement" cure is helpful. Mecanical, passive and aided active motion in various forms from complicated electric-driven to pendulum-swing weight and pulley devices are in use in institution treatment. Manipulators, more or less specially skilled by experience or training, have in all communities, even primitive ones, practised what might be termed "chiropraxy" (if an unusual and learned name is desired) for it is through the practise of the hand that help is to be given. A third method is through the daily exercise of special movements of the individual, as is the practice among circus performers and contortionists as well as in ballet schools. It is undoubted that beneficial results may be gained by any of these methods properly applied and in suitable cases, nor is there a doubt that such exercises are more commonly needed than is generally supposed. It is easy to demonstrate how common is articular ligament and fascia stiffness even in healthy individuals.

If a middle-aged person of sedentary habits is placed sitting upon the floor and directed to stand without helping himself with his hands, as can readily be done by active children, the difficulty shown in his attempt to get on his feet is due not so much to a lack of muscular strength as a lack of suppleness in his knee, hip and lumbar region, *i.e.*, to diminished elasticity in the periarticular ligaments, fasciae and fascia-like attachments of the large muscles.

In the shoe-bound foot, ligament stiffness is even more evident. In the normal foot, as in the hands, the digits are freely flexible. If anyone who has always worn snugly fitting shoes is asked to pick up a handkerchief with his foot, the ligament stiffness of the metatarsophalangeal joints will be evident. There is little or no toe clutch found in a shoe-weakened foot, although always present in a normal foot. There is ample evidence to demonstrate the fact that stiffened ligaments can be brought back to a surprising degree of flexibility by persistence and judicious treatment in a much larger number of cases than might at first be supposed, in the same way that muscles may be strengthened by proper gymnastic exercises.

If surgeons are apt to overlook the advantage of non-operative treatment in stiffened joints of the extremities, this is even more true in the stiffened articulation of the spinal column (including the costo vertebral articulation) and of the diminished elasticity in the ligaments and tendon attachments of the large back muscles joined to the pelvis and in the broad fascia in the lumbar sacral region as well as the small tendons of the multifidus spinae.

To manipulate the joints of the extremities and to stimulate the circulation in the superficial tissues is much less difficult than to make the same attempt in the back; but the need of physical therapeutics of the spine and its adnexa is often great and unrecognized by the patient. The individual knows if he walks lame, but diminished flexibility in the spinal column may exist to a marked degree without any knowledge on the part of the patient until a misstep or wrench may strain a stiffened ligament causing a congestion made manifest by lumbago, irritating the emerging nerves and inducing sciatic pains.

The normal flexibility of the spinal column varies and it is desirable as well as not difficult for a surgeon to determine, by observation, a practical standard of a state of adequate flexibility in the various directions of flexion, extension, rotation and side bending of the different parts of the spine suited to the working needs of the individual. Measures for correction of stiffened ligaments of the back in the way of passive and active movements are easily employed on the same principles as those of benefit in stiffened joints of the extremities. These measures can neither be those requiring the use of mechanical aids of service in institutions, or by means of more or less forcible passive exercises conducted by an attendant, bending, twisting, extending and pulling upon the spinal column, the spinal muscles being relaxed, or by active ligament stretching exercises daily conducted by the individual himself. These statements are not to be taken to imply that massage, heat and cold or muscular exercises are not of great value. It must, however, be recognized that these are not the only measures which can be employed in stiffened conditions where operative interference is inadvisable. Stimulation of the circulation promoting absorption in edematous tissue, feeding with additional blood supply tissues which are starved for lack of the normal blood flow by vigorous exercise is of the greatest importance, but stiffened ligaments need the exercise of judiciously applied strain for a proper restoration to function.

The practice of physical therapeutics requires, like other practice, the exercise of judgment and knowledge and experience, but there is nothing not easily comprehended by any well-trained physician. Compared with the preparation needed by the oculist, aurist, laryngologist, teaching in physical therapeutics is simple, but it is of great importance that all surgeons, especially those interested in correction of deformities, should be adequately instructed in this neglected, though useful, branch of remedial agencies. It would not be difficult to mention instances of mistakes made by non-medically educated manipulators who apply manual treatment in cases where such treatment is not suitable. This, however, is unnecessary in discussing the subject among physicians whose daily practice brings them in contact with cases of unrecognized malignant diseases treated by manipulators beyond the period of successful cure by operative measures. Cases of tuberculous spine twisted and forcibly manipulated with resultant serious injury; phthisis and pneumonia treated too long in the expectation of relief from removal of pressure upon a supposed nerve by a supposed dislocated rib. These instances are serious but should not be used by physicians as a justification of the neglect of proper physical therapeutics when such measures are of use. The following instance is an illustration. A young lady, a student at a girls' college, sprained her ankle, which was fixed in a plaster bandage before she returned to her home. The attending surgeon told her to inform her family physician of the condition and advised her that as long as there was pain and swelling fixation would be needed. After a few weeks the bandage was removed by the family physician who re-applied the fixed dressing as pain and swelling followed the free use of the foot. The patient then went to a southern resort to improve her general condition, when removal of the plaster again brought discomfort and a third plaster bandage was applied. By this time several months' confinment of the limb had caused a marked muscular atrophy and increased ankle weakness, a brace was applied and the prolonged use of crutches. Massage and electricity did not restore the ankle to a normal condition and the patient remained, on her return to her college work in the following year, in a partly crippled condition, needing a brace and cane. Meeting with another fall, she suffered a similar severe strain in her other ankle, which was treated by a plaster bandage for some time. Locomotion was given up and the patient resigned herself for the following six months to a wheel-chair life. Massage alone proved inadequate. Persistent muscle training with special attention to the gradually increasing daily exercise of the toe flexors and tibials was necessary to place the patient upon her feet with the reëstablishment of the function of walking. Although there was no impairment of innervation, merely a loss of strength in muscles disused and compressed for a long period, from a month to six weeks' treatment was needed before a satisfactory result was reached. The case was one in which the permanency of the cure could be ascertained in subsequent years. The patient as a housekeeper, a mother of several children or in social activity had no further trouble in her feet and ankles, although in the many years she was occasionally seen, she was of the delicate nervous type. She had, however, needlessly, through unwise surgical treatment, lost a year of her youth.

A healthy woman of sixty-five, having wrenched her knee, was treated for the resulting synovitis by tight bandaging of the knee, which was continued for months, as swelling returned on leaving off the bandage. After a bandage had been worn on the knee for over a year, the other knee was strained and for this similar treatment was applied. At the end of three months the patient finding herself seriously crippled, concluded that some change in treatment might be necessary. Muscle training, massage, electricity persistently employed for a few weeks effected a cure which, as was ascertained by reports in subsequent years, was permanent.

A healthy man of fifty years reported for advice on account of an injured knee, stating that while playing football when in college he had sustained an injury for which he was treated for a long time by means of a "ham splint" and a stiff liquid glass bandage worn for a long period. In the succeeding thirty years he had worn a tight bandage about the knee. If this were removed discomfort followed. On examination, no fluid was found in the joint, the motion was smooth and free, but the thigh above the knee was reduced to less than one-half of its normal size. There was no evidence of injury of the ligaments or cartilages. As the case was seen in the days before x-rays were used in examination, the outline of the bones could not be ascertained, but as there was no limitation of motion or pain, the difficulty appeared clearly to be due to an atrophied muscular condition from too prolonged bandaging. The patient needed a cane, and considered himself a permanent sufferer from rough college sport. Declining any attempt at treatment to strengthen his muscles, having been discouraged by previous massage and electrical treatment, and not knowing how badly he had been surgically advised, he resigned himself to his lameness as a victim of sport.

The practice of the long-continued use of stiff plaster, leather or stiffened steel corsets for back pains is a common one. Tightly girdling the pelvis for supposed partial bone displacement or pelvic bones for joint laxity for lumbar and thigh pain, can manifestly not be continued indefinitely without tissue injury. Cases where much damage is done by ignoring the need of muscle and ligament function for the reëstablishment of a normal condition are not uncommon. They can give to the osteopathic practitioner an impression that the surgeon may lack experience in many forms of backache which can be cured without splints.

There can be no question that the physical therapeutics should be sensibly practical as a part of surgical treatment. If this is done the public will be helped and the service of scientific surgery increased. In these days of sound reasoning from knowledge founded on carefully observed facts the public should not be deluded by "pathies." The practising osteopath, if properly informed, would naturally wish to avoid the name he is labeled with. It is, however, equally true that no sensible physician can ignore the evident benefit to be obtained in suitable cases by treatment which vitalizes tissues weakened by disease, by the rational means of training to function.

Manipulators, under whatever name as a trade-mark they practice and whatever successful results they obtain, must recognize the need of sound fundamental medical knowledge in the treatment of diseased conditions, rather than a reliance upon an empirically trained skill.

The following incident will serve as an illustration: A gentleman mentioned to his family physician that a newly bought and valuable polo pony was to be "fired" in his joint as he had gone lame. The physician asked what benefit was expected to result from such a remedy and was told that the jockey had reported that if ridden half a mile the pony would go lame and that treatment was necessary. The physician suggested that the jockey walk the pony five minutes several times a day, giving his joints use without strain and increasing the time of use daily. The pony was restored to a normal condition in a few weeks. What the result would have been if the joint had been cauterized may be conjectured.

It is natural that the medical profession should regard irregular methods of practice with some suspicion, for there is much ignorant error in medical matters which is injurious, but to regard the unacademic with contempt is irrational as well as narrow; successful popular remedies may contain a grain of truth. Homeopathy meant that the medical profession should avoid heavy, nauseous, and needless drugging. Christian Science indicates that psychology and a knowledge of the working of subconscious thought is needed in medical practice. The catarrh cures preceded laryngology, cancer cures without the knife pointed the need of cancer research and radium study. A prevalence of osteopathy and bone-setting means a need of a more scientific study of physical therapeutics.

Original Articles.

PRIMARY SYPHILIS.*

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The subject of primary syphilis affords an opportunity to emphasize one of the big questions arising in the field of preventive medicine in connection with this disease. The matter of prevention in all its aspects is a subject of first importance, and next in importance comes the early recognition and the care of the early stages in order to prevent later effects. As an introduction to this discussion of the earliest stage of syphilis, it is my intention to emphasize certain modern concepts of this disease as a whole.

In the first place, let me call attention to the concept of syphilis as a general disease, in order to emphasize the fact that it should be treated as such instead of treating merely the local manifestations. In dispensary practice, as well as in private practice, physicians working much with syphilis find that this fact is often lost sight of. Many cases are seen in which the treatment has been continued only until the local condition has disappeared. Certain facts about syphilis contribute to this error. The disease begins as a sharply localized lesion. It appears later in life, often involving a single portion of the body, as a gumma—as a periostitis — aortitis — keratitis, etc. These evidences tend to make us neglect the consideration of this third great plague as a generalized disease. We tend to forget that it is a septicemia, or rather, a bacteremia, at a very early stage in the disease, and that the causative organisms are carried to every nook and cranny in the body, with the ability to lie dormant for many years unless entirely eradicated by rational and long continued general treatment.

Experimental work by Neisser, in 1911, showed that it was possible to transfer the infection by means of the blood before the appearance of secondary symptoms. The failure of circumcision in the prevention of secondary symptoms has demonstrated the same fact. Still more recent is the evidence presented by a positive Wassermann before the appearance of secondary symptoms. The early invasion of the central nervous system, as Fordyce and others have shown by the early positive Wassermann tests obtained on the spinal fluid, is still further evidence of the early infection of the deeper structures of the body. Within the last year or two, at the Rockefeller Institute,[1] experimental work with rabbits has demonstrated that in seven days after the local inoculation of spirochetes into the testicles of a rabbit the presence of spirochetes in the blood has been shown, and this in view of the fact that the primary appears at the site of inoculation in the rabbit clinically twelve to fourteen days after inoculation, much the same as in man. Moreover, in other experiments on rabbits, if the inguinal glands are removed forty-eight hours after inoculation of the testicles with spirochetes, and material from these glands injected into other rabbits, the disease will be produced almost constantly. Thus can be seen the early invasion of the blood stream and the reason for the failure of excision of the primary lesion. The conditions are not exactly the same, of course, but there is no reason to doubt, in view of all the experimental work which has been done, that the course of the disease is much the same in the two species.

Another concept which has been brought to our attention, mostly through the efforts of the Public Health Service and the various state health departments, is the seriousness of the ravages of this disease. Here again the true state of affairs is rather masked. Let me cite an example from our own state. Downing[2] has analyzed the vital statistics for this state for 1912. The records show that only 113 deaths are recorded as due to syphilis. He points out, however, that if one considers still births, paresis, tabes, paralysis without cause, softening of the brain, certain cerebral hemorrhages, particularly between twenty and fifty; certain heart and arterial diseases, certain liver diseases, some of the suicides, etc., there are, in round numbers, probably 3,000 deaths, or one in eighteen, from the effects of this disease. This ranks next to tuberculosis, pneumonia, and cancer as causes of deaths. Vedder estimates that almost one-half of all syphilitics eventually succumb as a result of the infection. It is the greatest cause of death of men in the large cities.

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* Read before the New Bedford Medical Society, Oct. 11, 1920.

In the third place, it is practically impossible to estimate the morbidity and economic loss from syphilis. I know of no way to emphasize properly this conception of the disease. There are so many factors which enter into this phase of the question that only a few can be named: the time lost from work, the lessened efficiency, the expense of doctors and medicine, maintenance of hospitals and dispensaries for their care, the cost of state aid and care, etc., to say nothing of actual suffering and disturbed family affairs. In our own state, according to Williams,[3] it cost $40,000 for 100 men admitted to the Boston State Hospital for syphilitic mental disease, and about 10 per cent. of all cases admitted are syphilitic. It costs a big sum, if one figures it all out. This concept can be emphasized again by calling attention to the fact that there are probably, on a conservative estimate, more syphilitics in the United States[4] than there are people in the New England States, or, that their number is twice as great as the population of our own State of Massachusetts.

The cause of syphilis, the treponema pallida, was discovered by Schaudinn and Hoffmann in 1905, while attempting to prove or disprove the existence of a parasite previously advanced as the causative factor. The organism is spiral, corkscrew-like, with very delicate and perfect spirals. It is very actively mobile, advancing with a screw-like motion, and at other times exhibiting quick lashing motions in which the two ends are approximated. The individuals vary in length roughly from the diameter of a red blood corpuscle to twice this length. It can be grown in pure culture, produce the same disease when inoculated into animals, and be recovered in pure culture, thus fulfilling Koch's law. The earlier experimental work was in apes and monkeys, but the more recent contributions to our knowledge of the disease are due to the work with rabbits. Fortunately for the human race, the treponema is not very resistant. It dies very quickly with drying. It does not curl up in the dust or lie about in the corners as does the T.B. bacillus. If kept moist at body temperature, it may live for twenty-four hours, and in tissue it may live for forty-eight hours, and in undisturbed culture, under proper conditions, it may live for one year. It is very susceptible to antiseptics and is killed by 60 degrees Centigrade for five minutes. No spores have been found and it is thought that reproduction takes place by transverse division. Experiments have shown that its resistance to mercury and arsphenamine can be raised, especially its resistance to mercury. This bears out certain clinical evidence that we have to deal at times with a mercury resistant or an arsphenamine resistant type of organism. Further experimental work indicates that there are certain strains of treponema just as there are strains of streptococci. Nichols[5] has isolated a strain which has produced neurosyphilis in man and consistently produced choroiditis in rabbits. This fact is demonstrated again in the individuals who have only skin lesions, bone lesions, or nerve lesions without other manifestations, and also in the families in which there are several paretics. It is not yet possible, however, to prophesy, from a study of a treponema or a primary lesion, the type of disease which is apt to follow.

The primary lesion of syphilis, or chancre, appears about three or four weeks after infection. It may appear earlier, or as late as six weeks after inoculation. The term "hard" and "soft," as applied to chancre, ought not to be used. It is far more preferable to use the correct terms, chancre and chancroid. About 92 per cent.[6] of the initial sores are on the genitals, the other 8 per cent. being scattered over the rest of the body, most frequently on the lips, tongue, throat, and breasts. The contagiousness of these sores is illustrated by the famous kissing party reported by Schamberg,[7] in which eight individuals were infected by a chancre of the lip. The typical primary lesion has certain definite characteristics. It is usually a painless lesion. It is indurated, the induration at times being almost cartilaginous in character. It is essentially a papule, dull red in color, sometimes crusted, eroded, or ulcer ated, with comparatively little discharge. It may vary much in size and may be single or multiple. Numerous classifications of types of primary lesions are found in textbooks, but the various types usually have certain essential characteristics, as I have said, these characteristics being modified somewhat with the location, and particularly, with the amount and character of the mixed infection. Another characteristic is the involvement of the neighboring glands. Within two or three weeks these satellite glands become enlarged and hard, but are not particularly painful. The clinical recognition of a typical untreated primary lesion is not difficult. In regard to the mixed infections, in the lesions which have been treated, and in extragenital lesions, a diagnosis may often be impossible clinically.

I shall purposely say very little about the clinical differential diagnosis, for I feel that laboratory methods play such an important part in and should be applied to the diagnosis of questionable lesions. A chancroid, even a frankly chancroidal ulcer, ought to be considered as a possible hiding place of treponema, and should be examined with that possibility in mind until such time as the diagnosis of syphilis can positively be disposed of. These ulcers are usually excavated, with undermined edges, are painful, with glands which tend to suppurate, and have a short incubation period. Scabies is characterized by itching, other lesions on the body, and often the typical burrows. I have seen a few cases in which the only lesions were on the penis. Herpes is usually a group of vesicles with some itching or burning, without glandular involvement. A carcinoma appears late in life, develops slowly, is often painful, and may have a pearly border. A late syphilitic ulcer is a slow-growing, sluggish, infected one. It does not usually show the characteristic enlargement of the inguinal glands and may have a history of previous syphilis. In all these diseases, in fact, in any sort of sore on the genitals, the possibility of early syphilis must be considered. Not only that, but in the knowledge of the fact that there are 8 per cent. which are elsewhere on the body, the same consideration must be given to all sluggish ulcerations and slow-healing abrasions and fissures, particularly with a painless enlargement of the nearby glands. Again let me repeat two lessons which should be learned: Any lesion of the genitals may be the abiding place of the preponema pallida; and secondly, it is impossible to make a positive diagnosis in many cases from the clinical appearance alone.

It is in order to avoid the later consequences of syphilis, which I have mentioned in my introduction, that I want to lay so much stress on the fact that these cases should be sumbitted to laboratory tests—to a dark-field examination at the earliest possible moment, and in an untreated condition. Let me dwell on this latter point. The cauterization of penile lesions and their treatment with antiseptics before a darkfield is done, that is, before an attempt has been made to ascertain the presence of the organisms of syphilis, is a serious error. It may destroy the chance of making a positive diagnosis of syphilis until the disease has become widespread enough to provoke a serological change. It may deprive the individual of the advantage of treatment at the most favorable moment. It may allow him to continue in an infectious condition with the possibility of infecting others. It is far more important that an early syphilis be detected than that a chancroid or a herpes should go untreated for twenty-four to forty-eight hours. The former is a generalized disease with far-reaching and late effects, while the latter are localized diseases of comparatively short duration. Therefore, don't cauterize, don't treat with calomel or bichloride or strong antiseptics until a darkfield has been made. And if such application has been made, use a normal salt solution dressing for twenty-four to forty-eight hours and make another examination at the end of that time. The darkfield bears the same relation to syphilis that the culture does to diphtheria, only with the darkfield one has the opportunity to see the actual, living, moving cause of the disease in question. In the use of the darkfield as a diagnostic measure for syphilis in the early stages, and in thus paving the way for prevention of the latter stages by proper treatment, we make a practical and effective contribution to preventive medicine.

There are certain details in the darkfield technic which tend to simplify the process so that I feel it is worth while to review the method of making this examination. I have emphasized its value and I might add that it is worth even more to us in the matter of diagnosis than the examination of sputum in suspected tuberculosis. The special equipment necessary consists of the darkfield stage and a source of strong light. A hard rubber "funnel stop" is necessary for insertion into the oil immersion lens if this is to be used. Thin slides and cover glasses should also be used. As a matter of fact, a piece of blotter the size of a quarter, attached to the under side of an ordinary Abbé condenser, gives a very satisfactory darkfield. A 150-candlepower, nitrogen lamp, enclosed in an asbestos-lined or metal-lined box, is necessary to produce sufficient light. The most satisfactory lamps, naturally, are those sold by regular instrument makers, such as the Bausch & Lomb, and the Leitz.

In the matter of obtaining specimens for examination, attention to certain details increases the chances of finding the organisms, if present. I have mentioned the necessity of obtaining specimens from untreated lesions, if possible. The first step which will aid us is to wash off the surface with 95 per cent. alcohol, rubbing vigorously enough to cause a slight oozing If the lesion is covered with epithelium, it should be scarified with a scalpel. Mop off once or twice with dry gauze to get rid of the excess blood. Experience has shown that pressure tends to force more treponema to the surface and thus into the serum. Have the individual squeeze the lesion at the base as hard as possible without causing too much pain. It is very necessary that the microscope be centered by means of the circles on top of the darkfield condenser, that is, these circles should be in the center of the microscopic field when viewed with the low power lens. Furthermore, it is necessary that a drop of oil be placed on the top of the condenser, sufficient to fill in the space between it and the under surface of the slide, and also that a drop of oil be placed on the surface of the cover glass if the oil immersion lens is to be used. I prefer to use the oil immersion, but the high dry lens gives sufficient magnification to make a diagnosis. We hear considerable discussion about various treponema which may be found by this method. In genital lesions it ought to be fairly easy to distinguish between the treponema pallida and the treponema refrigens. The latter organism is shorter, thicker, with smaller and less regular turns, and has not the same characteristic motion of the pallida. In the mouth lesions, there is more difficulty. Diagnosis from microscopic evidence alone should be made with hesitation. The surface of mucous lesions must be cleansed thoroughly and an endeavor made to obtain material from beneath the surface, in order to avoid contamination with similar organisms found in the mouth.

In the cases which are positive it is needless to say that treatment should be started at once. In the negative ones, further examinations, repeated as the individual circumstances suggest, should be made, using salt solution, as I have indicated before. Such cases should be watched and blood taken for Wassermann examination at the time of the first examination, and again in two to four weeks, or sooner if necessary, in an endeavor to settle the question of syphilitic infection once for all. As I say, it is imperative that this question of syphilis, or not syphilis, be determined at the earliest possible moment in order to give the individual and society every possible advantage of preventing the full development of a serious contagious disease. I believe that a procedure similar to this should be followed in every case of genital lesions, or other suspicious lesions, the details, of course, varying somewhat with the indications in the individual case.

There are other laboratory methods to aid us in the diagnosis of early cases. A very practical aid to the darkfield examination is the puncture, with a sterile hypodermic needle, of a satellite gland or the indurated base of a suspicious lesion. Gentle motion of the syringe, while the needle is within the gland substance, either with or without the injection of a tiny amount of sterile salt solution, will result in the maceration of a certain amount of tissue so that perhaps some cloudy fluid may be drawn up into the needle. This material, expressed on a slide and examined under the darkfield, may show the characteristic spiral organisms and aid in the definite determination of those lesions in which a darkfield examination of the surface is negative.

The serological test, the Wassermann test, does not help us in the first few days, but does stand in the second line of attack, as it were. A positive result is given in about 60 per cent. of the cases within three weeks of the appearance of the primary. This fact emphasizes still more the value of an early darkfield examination as a means of diagnosis before serological change is evident. The value of a single positive Wassermann is often exaggerated. Standing alone, with no other evidence, it needs confirmation. In the presence of suspicious signs or symptoms, it becomes a valuable ally in diagnosis. The correct interpretation of results demands a knowledge of the particular laboratory and the sensitiveness of the technic which is being used. The general reliability of the technic in this state has been shown recently in 3000 cases by comparison of serological tests performed in two different laboratories in Boston.[8] This series has demonstrated a uniformity of results in the two laboratories in over 96 per cent. of the cases on one test. In the great majority of the small number showing different results, later tests showed agreement.

A third method of laboratory diagnosis in early lesions is by culture. Granting that a darkfield is negative, recent reports indicate that it is possible, in properly equipped laboratories, to excise a piece of tissue, plant on a proper media, and recover the organism in twenty-four to forty-eight hours. Suffice it to say that this method is hardly to be used except in the vicinity of especially equipped laboratories. In all our work of diagnosis, laboratory as well as clinical, we must be guided by reason and judgment, perhaps having an outline or routine to be followed, varying it to fit the individual case under consideration, the main point being, as I have already stated, to settle the diagnosis of syphilis as soon as possible. It is not necessary, however, to carry our zest for laboratory procedure to the extent described in a case reported by Dr. Pusey of Chicago, of a boy who had had numerous Wassermanns and darkfields, two spinal punctures, a circumcision, and a biopsy, in an attempt to make a diagnosis of syphilis in a case of herpes progenitalis.

In the prognosis of early syphilis, there is abundant reason to believe that our newer methods of treatment will afford to the individual an absolute cure. Indications are that treatment instituted early in the disease, before the treponema have become widely disseminated in large numbers, will kill off these organisms and prevent them from settling down in those areas in which they are accustomed to localize in the later stages. I believe that early, persistent treatment of these earlier cases practically guarantees the individual from further consequences of this infection.

In the local treatment, the use of calomel ointment or calomel powder is usually sufficient, in addition to the usual regular treatment, which should be started as soon as the diagnosis is made. Let me emphasize the fact that treatment should not be instituted until a diagnosis is positively made. Tentative treatment, or incomplete treatment, may spoil the possibility of making a diagnosis at a very early stage, but, at the same time, no delay should be made in beginning treatment at the earliest possible moment when the diagnosis is certain. In early syphilis, we are confronted with a disease which has the actual living organisms circulating in the blood stream. With this indication for treatment before us, the necessity is seen at once for the introduction of those agencies which will kill off the organisms as quickly as possible with the least damage to human structures. The most powerful spirillicide which we have is arsphenamine, the drug which experimental and clinical experience has shown performs this work to the most satisfactory degree that is known at the present time. This drug should be administered intravenously, according to the careful directions which accompany each dose of the drug. Too much attention to detail cannot be given to the preparation of the solution, and to the administration. It is necessary that distilled water, and freshly distilled water, be used, and that water of proper temperature should be used, according to the brand of drug employed. The matter of neutralization exactly according to directions, the matter of filtration, the matter of proper tubing, the matter of speed with which the drug is administered, all are matters to be given the utmost consideration. The necessity for perfect sterilization of utensils and the fact that we are dealing with a toxic drug, are factors which should always be borne in mind. It is through the neglect of details in mixing and neutralizing and administering the drug that so many serious mishaps and accidents have arisen. In the administration of arsphenamine the most satisfactory results, in the long run, are obtained by the use of the gravity method, employing a dilution of 0.1 gram to at least 20 c.c. sterile water, using an 18 to 20 gauge needle. A Fordyce needle, or the use of some similar adapter, tends to make the actual insertion of the needle into the vein a much easier process. Let me emphasize again the necessity for care both in the preparation of the solution and in its administration, in order to avoid the possibility of undesired effects. The preparations produced in this country today are, as a whole, less toxic than foreign preparations, and are giving reliable results in the hands of the majority of the men who are using them.

Individuals who are to receive salvarsan should receive a certain amount of preparation. In the first place, they should have a physical examination before treatment. We ought to know their physical condition before, in order to estimate the dose and frequency of the drug, and to be able to anticipate possible serious effects. The urine should be examined; the circulatory system should be examined; and the blood pressure taken, particularly in individuals over forty. History of previous diseases, particularly in regard to the kidney, heart and liver, should be obtained. The patient should be requested not to eat for at least four hours before the injection and to take a saline laxative, preferably the night following. Both of these measures tend to lessen the possibility of reactions.

There are two usual methods of prescribing arsphenamine. The first includes six or eight weekly, intravenous injections, in doses calculated to the body weight of the individual, giving 0.1 gram for each thirty pounds of body weight. The first injection of a series should not be larger than one-half the dose for that individual in order to avoid the possibility of an idiosyncrasy to arsenic. The other method of treatment, the so-called intensive method, consists of three full doses of arsphenamine at twenty-four hour intervals, the intention being to eradicate all the treponema at this time, if possible. Pollitzer of New York is the champion of this method, and his results tend to bear out his contention. It must be remembered, however, that he is a man of wide experience and uses the utmost care in the preparation and administration of the drug. I, personally, favor a half-way course, particularly in the type of ambulatory cases which we see in the dispensaries and in the office. I feel that an intravenous injection, calculated as above, every three days, for four doses, followed by two to four more at weekly intervals, provides almost as much assurance in the way of treatment, and at the same time is a bit safer to employ with the average individual.

Mercury is indicated in every case. It may be given during the period of administration of arsphenamine. It should be administered to the toleration of the individual over a period of ten to twelve weeks, always remembering the fact that mercury is more toxic to the kidneys than arsphenamine. The injection of a soluble salt every other day, or the injection of an insoluble salt, such as the salicylate, intramuscularly, once a week, are the methods most in use today. The inunction method is slower and dirtier, but at the same time the saturation can be maintained in one to whom the other methods are objectionable. I repeat that in our eagerness to treat properly we should not lose sight of the fact that both arsphenamine and mercury are toxic drugs; that they both cause irritation to kidney epithelium particularly. Careful examination of urine should be made at frequent intervals, and careful note should be taken of any untoward circumstances arising after treatment, in order to prevent possible bad results. One should be on the watch for early immediate reactions occurring during or just after administration—the type which causes flushing of the face, possible dyspnea, backache, substernal depression, etc. One should be on the watch for cases in which nausea, vomiting, headache, etc., occur for twenty-four to forty-eight hours after several injections. One should be on the watch for later effects, that is, for the beginning of a dermatitis, which may possibly lead to the serious exfoliative type; for a possible beginning jaundice; for a possible polyneuritis; as well as the possible irritation of the kidney during the course of treatment.

After the first course of treatment with arsphenamine and mercury, lasting, as I have said, from ten to twelve weeks, a rest of four to six weeks may come before repeating the same course again. If the Wassermann remains negative during all this period it may be possible to omit a third course of salvarsan; but I believe, at the present day, in the light of experience to date, it is safer for the individual to have his third course of arsphenamine and mercury in order to be sure of being totally free from the disease. It is not possible to treat the disease properly without the use of both drugs. Practically every authority agrees on this point, the main difference coming in their method of use.

Neoarsphenamine as a substitute for arsphenamine is being used much more extensively. The fact that it dissolves readily in cold water, that it does not require neutralization, and that it is less apt to produce reactions, makes it attractive for administration. Neoarsphenamine solutions are toxic when the drug dissolves with difficulty, or when cloudy solutions are employed, or if shaken in the presence of air. It does not hemolyze the red blood cells in the ordinary concentrations. It is, however, less active therapeutically than arsphenamine, and the clinical experience of most authorities favors the use of the latter. The concensus of opinion is that neoarsphenamine when used as a substitute, should be administered oftener or for a longer period to obtain the same therapeutic effect. In early cases of syphilis, Schamberg[9] commonly administers 0.9 gram three times a week.

In conclusion, I might summarize by saying, that we are dealing with a contagious disease which becomes generalized at a very early period. It has most serious effects on the individual and on society. Proper laboratory facilities are essential for the diagnosis of early syphilis. In the eradication of the disease, our share, as physicians, lies in the furtherance of efforts at prevention, in the recognition of early stages, and in rational, persistent treatment, in order to prevent the disastrous effects of later involvement and of infection of others.

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RECTAL ABSCESSES AND THEIR TREATMENT.

By T. Chittenden Hill, M.D., Boston.

The simplicity of the incision of an abscess as a surgical procedure and the frequency with which abscesses in the perianal region are met have led to minimizing the importance of their treatment. Except in relation to their location, it is true that they differ in no important particular from abscesses in other situations. Their location, however, makes the subject an important one for consideration, for every rectal abscess is a potential fistula.

ETIOLOGY.

Like all other abscesses, rectal abscesses arise from direct introduction of bacteria. This may take place either through the skin of the perianal region, which is very rich in hair follicles and sebaceous glands, or through some lesion within the rectum, such as an ulcer, abrasion, or fissure.

Pathologists tell us, and indeed it is a well-recognized fact, that infective bacteria are present in the superficial layers of the skin all over the body. Bacteriological examination of the anal skin in health shows many varieties of pus-producing organisms, and, as both within and without the rectum they are exceedingly numerous, it naturally follows that the perianal region is a favorite site for abscesses. The question of the most common infective agents, however, has never been settled, as bacteriological studies of the pus are beset with great difficulties and a pure culture of any organism is seldom found. The staphylococcus and streptococcus are commonly present; the B. coli is nearly always found and is the cause of the very foul odor so frequently associated with them. Some infections take place through the blood stream,—notably, those following injuries to the parts and those of a tubercular type.

A primary tubercular abscess is most uncommon, infection being more frequently secondary, gaining entrance through swallowed sputum, or from the pus of a tubercular lesion of the intestinal tract. Even such infections must be comparatively rare, however, as I am told that rectal abscesses are not especially numerous in tuberculosis hospitals. Nevertheless, the question whether abscesses and fistulae are not, as a rule, tubercular in origin is frequently asked. To my mind this tubercular theory, so popular among the profession, has erroneously become the commonly accepted conception through the frequency with which such abscesses result in fistulae through improper treatment.

TREATMENT.

The rapid burrowing of pus about the muscular structures which control the important function of defecation, if not recognized early and freely drained, may lead to serious results. Inadequate and poorly devised incisions are responsible for much suffering and invariably terminate in rectal fistulae. Indeed, the invalidism and distress which follow the improper treatment of these cases can hardly be overstated. It is a common experience to see patients who have had abscesses and fistulae incised regularly over a period of years without any benefit except a temporary relief of the painful symptoms.

The imperfect technique of incision is largely due to the fact that textbooks on general surgery either give no information as to the type of incision indicated, or, what is more to be regretted, their teachings as to the method of incision are impracticable and wide of the mark. Two of the most popular and latest books cover the subject as follows:

1. "Early incision and drainage constitute the only treatment of this condition. . . . As the majority of these cases are caused by infection from the bowel, *in many instances a fistula results, requiring subsequent treatment.*"

2. "The incision runs from the anal margin like the spokes of a wheel. Irrigate with salt solution, inject iodoform emulsion, insert a drainage tube and *let the patient know he is in danger* of developing a fistula."

This is all there is to be found about the treatment, of a practical nuture, in either book.

To always warn the patient that this condition may become a fistula, as these authors have suggested, is perhaps safest; on the other hand, I am firmly convinced that if the incisions are carried out as I shall presently describe them, this unhappy result will seldom, if ever, follow. It seems to me that every fistula should be regarded as a reflection on the surgeon's skill and, as these cases now make up nearly 50% of all rectal affections, there is room for much improvement in their present mode of treatment.

The following are some of the reasons for the frequency with which a fistula succeeds an abscess:

1. A very common error is to delay too long in opening the abesess, temporizing with fomentations, etc. The result of such delay is an increase in the size of the abscess with much destruction of the soft areolar tissue and consequent delay in the healing process. Pain and induration are sufficient evidence of abscess formation and one should never wait for fluctuation.

2. A small opening almost invariably means a fistula. It should be remembered that, as the abscess cavity contracts, the incision is also shortened, thus affording poor drainage. The opening should be sufficiently large to remain patent during the after-treatment. It is a very painful procedure to push in gauze through a small incision, as some surgeons do.

3. The form of incision is very important. The T or crucial is best for most abscesses. It will be recalled that even the skin covering the peri-anal region (corrugator ani muscle) has a tendency to close up the wound. When reinforced with the action of the external and internal sphincters, it can readily be understood why an incision "running from the anal margin like the spokes of a wheel," as advocated, is so entirely inadequate in a rectal abscess.

There are several varieties of abscesses in this region and the method of operating varies with the particular form to be dealt with.

Subcutaneous and Marginal Abscesses. For the more superficial subcutaneous and marginal abscesses infiltration anesthesia is preferable. They are small in size and show no tendency to burrow. For this reason a procain solution works well. The *subcutaneous abscess* can then be lifted with the thumb and finger and transfixed with a bistuary. A second incision should be made through the deepest part of the induration (crucial incision).

For the *marginal* abscess a T incision is best, as there is less liability of injuring the external sphincter. To render the abscess more prominent the finger should be inserted in the rectum. The first incision is made parallel to the anus in the direction of the muscle fibres, the second at right angles to it. The cavity should then be swabbed out and a moist, sterile wick inserted.

Submucous Abscess. This abscess is usually found in the lower three inches of the rectum and lies just under the mucous membrane. It is smooth and elastic to the touch, much like a gum-boil, and is more or less elongated in contour. At defecation it causes acute pain and a feeling of weight and throbbing in the rectum. Apparently this abscess has its origin in the semi-lunar valves of Morgagni at the mucocutaneous juncture, for it is at this level that it often ruptures during digital examination.

This variety, in some instances, especially when felt above the internal sphincter, closely resembles a pelvi-rectal abscess. It bulges into the rectal cavity in much the same manner. I have encountered several such cases in which, even with the patient etherized, the type of abscess was doubtful. How can the two types be differentiated? I know of no absolute rule and have never seen any given. As just remarked, a submucous abscess can generally be made to burst by exerting force with the finger in the rectum. A pelvi-rectal abscess, being outside the muscular wall of the rectum, could not easily be ruptured in this way. This has been the point of differentiation upon which I have chiefly relied. The puncturing of a pelvi-rectal abscess within the rectum would, of course, be a very grave error, resulting certainly in a type of fistula most difficult of cure, and very possibly leading to a septic peritonitis through a diffuse cellulitis of the pelvic-rectal space.

The treatment of the submucous abscess depends upon the stage of its development in which it is discovered. If it has already burst, or is ruptured during the first examination, the opening will be found at its lower margin near one of the crypts of Morgagni. It is not necessary to enlarge the opening, as this variety, in over half of the cases, will heal spontaneously within three or four weeks. If healing does not take place, the abscess should be laid open from end to end by a linear incision on a grooved director. If, after introducing the director, it is found that one of the branches of the superior hemorrhoidal artery will be severed, it is my practice to thread a linen ligature on a silver probe which is passed through the sinus and tied tightly. The linen ligature will cut its way through the overlying mucous membrane in three or four days without any bleeding. When met with before the abscess has ruptured, a small T incision should be made at its lowest extremity and enlarged with a pair of forceps. No packing or other dressing is required in this form of abscess. These cases should be kept under observation until soundly healed, for if allowed to become chronic, they frequently cause vague symptoms of discomfort in the rectum, often partially healing, leaving small sinuses which are exceedingly difficult to detect later on.

Ischio-Rectal Abscess. This abscess occurs in the soft adipose tissue of the ischio-rectal space, which is poorly nourished with blood vessels. A septic process here spreads rapidly, as a rule, and often this abscess attains in a short time a quite remarkable size. Frequently what appears on examination to be a comparatively small abscess, at operation may be found to be a large one that will take several weeks to heal. The ischio-rectal abscess either breaks through into the rectum posteriorly, or often the pus finds its way back of the rectum to the ischio-rectal fossa of the opposite side. It is this latter form which is responsible for the horse-shoe fistula. In some of these abscesses there is very little external evidence, but, on introducing the finger into the rectum, a good-sized globular swelling can be felt between the finger and the thumb on the outside.

Incision should be made under general anesthesia. Gas-oxygen is a very satisfactory anesthetic, as the operation can be quickly performed. The T-shaped incision is recommended. With the index finger of the left hand in the rectum, the exact limits of the abscess are determined. The knife is then passed into the cavity and the first incision made, which should be a free one, extending from one extremity of the induration to the other and parallel to the anus. A second incision is then made from the centre of the first and all pockets found to exist gently broken down with the finger. Further incisions because of lateral burrowing, unless very extensive, are unnecessary; in fact, it is better practice to avoid excessive mutilation and the neighboring muscular structures should not be damaged at all.

Pelvi-Rectal Abscess. This deep abscess has its starting point in the superior pelvi-rectal space, located between the levator ani, which practically surrounds the rectum, and the reflection of the peritoneum above. Abscesses originating here may be caused by inflammatory conditions of the meso-rectum, the broad ligaments in the female, or disease of the prostate, seminal vesicles and bladder in the male. They do not arise so often from lesions of the rectum itself, though they do follow ulceration and traumatic conditions, such as foreign bodies.

In its early stage, diagnosis of this form of abscess may be easily overlooked. In the more chronic cases the symptoms are not very pronounced, in many instances being more of a reflex disturbance with pelvic distress and pain radiating to the lumbar and sacral regions or down the thighs. Digital examination, however, even in the earliest cases, will show a distinct fullness and swelling in the rectum. Later the abscess follows one of three courses: (a) it invades the ischio-rectal space, at this stage rather closely resembling an ischio-rectal abscess; (b) breaks through into the so-called retro-rectal space; or, (c) opens into the iliac fossa, following the line of least resistance and pushing the peritoneum before it. Therefore the importance of always making a digital exploration to ascertain the starting point of the suppuration.

When met with early (before the abscess has burrowed through to the ischio-rectal fossa), the incision is made as follows: a straight bistuary with its back toward the rectum, the finger in the rectum to serve as a guide, is pushed upwards into the abscess cavity until pus begins to flow. The incision is then enlarged parallel to the anus and a careful dissection made down to the levator ani muscle. The incision should be enlarged until the muscle fibres and the opening just made into the superior pelvi-rectal space are plainly visible. The muscle fibres of the levator ani are now cut transversely on both sides so that the opening shall remain thoroughly patent until the cavity above has been completely obliterated. In these deep abscesses I consider this procedure of dividing the levator of the greatest importance, and I first called attention to this method of dealing with them in a paper read before the American Proctologic Society, some ten years ago. The method of enlarging the opening described in special works on proctology is its divulsion with the finger or by means of a pair of dressing forceps passed into the cavity, then widely opened and withdrawn. This procedure simply separates the fibres and they unite before the abscess cavity above has been completely obliterated. This variety of abscess is the cause of the deep anterior horse-shoe fistula, the recto-urethral fistula, and sometimes the much more common posterior horse-shoe fistula, types that require extensive and often mutilating operations for their relief. These unpleasant sequellae can almost invariably be avoided by incising the levator muscle at the time of operation, as just described. The external wound should be converted into a T incision as the last step in the operation.

Further explanation of the manner of dealing with this abscess when it has already involved the ischio-rectal fossa is unnecessary. Whenever incising what appears to be an ischio-rectal abscess the possibility of this kind of an abscess should always be bourne in mind. In all cases where unusual quantities of pus are evacuated its origin will generally be found in the superior pelvi-rectal space. That the source of the infection is often overlooked is evident from the many cases of deep-seated, troublesome fistulae frequently encountered by all proctologists.

Retro-Rectal Abscess. This abscess develops in the loose cellular tissue found between the rectum and the hollow of the sacrum, just above the levator ani. The pelvi-rectal abscess often invades this space, or the abscess may originate independently from necrosis of the sacrum, coccyx, ilium, or even the bodies of the vertebrae. Perforations of the rectal wall by sharp foreign bodies, such as a fish-bone or a syringe tip, are said to be a cause. The incision is made posterior to the anus and the fibres of the levator ani divided in a similar manner to that described for the pelvi-rectal abscess. The finger is passed into the cavity and all pockets gently broken down. Tubes for drainage purposes should always be employed, and they should be removed just as quickly as possible, as the wound granulates fast, as a rule. At the same time, one should always ascertain whether there is any connection between the retro-rectal and pelvi-rectal spaces. If such is found to be the case, tubes should be inserted so as to insure free drainage of this space as well.

AFTER-TREATMENT.

Having afforded ample drainage with good incisions, the after dressings are simplified. There is no advantage in irrigating the abscess, as the pus will drain into the dressings. If gauze is put into the cavity, it should be used sparingly and changed frequently. The word "pack" is responsible for much slow healing and many fistulae. A drainage tube is far better for all deep abscesses.

I am a great believer in the hot sitz bath, night and morning, as carried out at St Mark's, London, and St. Bartholomew's Hospital, New York. It is questionable whether boracic acid or other antiseptics added to the water are of any great value. The water should be boiled and used as hot as the patient can bear with comfort. In all the deeper abscesses the patient should be kept in bed or on a couch until the abscess has almost healed. As granulation proceeds, irregular healing should be prevented by sponging the surface of the wound with a small piece of cotton twisted on the end of a grooved director. This breaks down any bridging and is an important detail in the prevention of fistula formation.

THE ENERGY REQUIREMENTS OF GIRLS FROM 12 TO 17 YEARS OF AGE.

By Francis G. Benedict and Mary F. Hendry,
Boston.

[From the Nutrition Laboratory of the Carnegie Institution of Washington, Boston, Massachusetts.]

(Continued from page 262.)

Comparison of Weight for Age. On the basis of body weight alone it can be seen that all of our groups, with one almost insignificant exception, had higher weights than the weights for similar ages represented by Wood's material. In the group aged 14 years, 1 month, the average weight of our girls was 44.2 kgs., as against an average weight of 44.5 kgs. for the Wood data. On the other hand, the weights of our girls exceed the weights for the Benedict and Talbot private school girls in only two age groups and are somewhat inferior in six groups. The particular age group of 14 years, 1 month is 7.1 kgs. lower (44.2 kgs. as against 51.3 kgs.) than the Benedict and Talbot group, but this fact cannot properly be taken as an index of distinct abnormality, since the average weight of this group is only 0.3 kg. lower than the average weight noted on the Wood curve. From an examination of the detailed data in Table III, showing the individual ages, weights and heights, it can be seen that this group included five girls under 41 kgs. in weight, offset in part, it is true, by the unusual weight of subject No. 39, *i.e.*, 62.2 kgs. It is, however, a point worthy of special note, that while we may not consider the girls in this group as physiologically inferior to a normal series of girls, such as that of Wood, they still are characterized by being perceptibly lower in the scale of comparison, *i.e.*, age-weight, with the Benedict and Talbot private school girls than any other of our groups.

Table IV.—Comparison of the Average Weights and Heights of the Groups of Girls Studied with the Standards of Wood[1] and of Benedict and Talbot[1] (Private Schools) for Girls of the Same Ages.

Average age		Weight (without clothing)			Height		
		Girl Scouts	Wood standard	Benedict-Talbot (private schools) standard	Girl Scouts	Wood standard	Benedict-Talbot (private schools) standard
yrs.	mos.	kgs.	kgs.	kgs.	cms.	cms.	cms.
17	0	58.1	51.3	59.4	163	159	163
15	10	53.6	49.9	54.8	163	157	164
14	10	49.9	47.1	54.7	160	156	162
14	1	44.2	44.5	51.3	155	154	162
14	0	51.7	44.2	50.8	161	154	162
13	8	50.0	41.8	49.2	159	152	161
13	4	43.7	40.0	47.5	153	149	159
12	10	41.0	37.3	44.9	152	146	156
12	2	39.5	35.2	41.9	150	143	153

Comparison of Height for Age. The average heights of our groups of girls are in all cases above the average heights drawn from the Wood curve. When compared with the Benedict and Talbot private school girls, our first group only is up to this standard. All the other groups are somewhat shorter, the greatest difference being observed in the group aged 14 years, 1 month, where the height is 7 cms. shorter than that for the private school girls. Attention should be called to the fact that the group aged 13 years, 4 months, is 6 cms. shorter than the corresponding private school group. In connection with the difference in height shown by the group aged 14 years, 1 month, it should be recalled that this particular group also showed the greatest weight difference when compared with the private school girls.

Comparison of Weight and Height as an Index of Normality. In spite of the popular use of the weight-age ratio, the weight-height ratio is physiologically much sounder. In the final consideration of our girls with a view to establishing their normality, therefore, it is necessary to study the relationships between weight and height and compare them with other standard series. For this purpose we will use the same series, namely, those of Wood and of Benedict and Talbot for private schools. The data are shown in Table V herewith. In the first part of the table the actual average heights of our girls are compared with the heights obtained for girls in the Wood series and the Benedict-Talbot series at similar average weights. In the second part of the table the actual average weights of our girls are compared on the height basis with the weights for the two standard series. The unavoidable variations in weight and height of the girls in our several Girl Scout groups make such a comparison, at best, open to severe criticism, and yet as a whole it is not without significance in indicating normality.

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[1] Benedict and Talbot, Carnegie Inst. Wash. Pub. No. 302, 1921, pp. 43 and 44. See, also, Gray and Gray, Boston Medical and Surgical Journal, 1917, Vol. clxxvii, p. 894.

TABLE V.—RELATIONSHIPS BETWEEN HEIGHT AND WEIGHT FOR THE GROUPS OF GIRLS STUDIED, AS COMPARED WITH THOSE IN THE STANDARD SERIES OF WOOD[1] AND OF BENEDICT AND TALBOT[2] (PRIVATE SCHOOLS) FOR GIRLS.

Average weight (without clothing)	Height			Average height	Weight (without clothing)		
	Girl Scouts	Wood standard	Benedict-Talbot (private schools) standard		Girl Scouts	Wood standard	Benedict-Talbot (private schools) standard
kgs.	cms.	cms.	cms.	cms.	kgs.	kgs.	kgs.
58.1	163	----	165	163	58.1	52.9	53.7
53.6	163	164	163	163	53.6	52.6	53.0
49.9	160	159	161	161	51.7	51.0	49.4
44.2	155	152	157	160	49.9	51.0	49.2
51.7	161	161	162	159	50.0	50.0	47.0
50.0	159	159	161	155	44.2	47.8	42.5
43.7	153	151	156	153	43.7	46.0	40.5
41.0	152	149	154	152	41.0	44.4	39.1
39.5	150	148	152	150	39.5	42.0	37.3

[1] Gray and Gray, BOSTON MEDICAL AND SURGICAL JOURNAL, 1917, Vol. clxxvii, p. 894.

[2] The data here given for the Benedict-Talbot standard have not hitherto been published. They were obtained from the extension of the curve shown in figure 8, Carnegie Inst. Wash. Pub. No. 302, 1921, p. 46.

Considering, first, the height for weight comparison, it can be seen that the Girl Scouts at a given weight were shorter than the Benedict and Talbot series in all but one group, but, on the other hand, were in the majority of instances taller than the girls in the Wood series. In other words, in this comparison they lie, roughly speaking, half way between the two standard series, and consequently must be adjudged normal. Although a series of girls who are shorter for a given weight than another standard series would obviously be heavier for a given height, it is of interest to note the exact mathematical relationships when weights for heights are compared, as has been done in the second half of Table V. On the weight for height basis our Girl Scouts at a given height are heavier in every instance than the Benedict-Talbot private school girls, but lighter in five cases out of nine than the Wood standard.

It is quite clear that on the basis of the weight-height comparisons shown in this table our girls may be considered as coming well within normal limits, measuring on the whole somewhat above the Wood standard, when comparing heights for weights, and somewhat less than the Benedict-Talbot private school girls, who, we have reason to believe, are somewhat exceptional in their superior development. As was pointed out in an earlier treatment,[16] however, while the Benedict-Talbot private school girls are heavier and taller for a given age, they are not as well developed for a given height, and consequently may be considered as being slightly thin for a given height.

General Conclusions with Regard to Normality. From Table IV it can be seen that our girls, both as regards height and weight for age, measure up very satisfactorily with one of the best known standards, namely, the Wood standard. In a number of instances they are, however, somewhat inferior to the selected group measured by Benedict and Talbot in private schools. No group, therefore, may be asserted to be abnormal either with regard to weight or to height. Of special significance in our study is the fact that one group, namely, that aged 14 years, 1 month, is characterized by having a much smaller weight and height when compared to the private school girls than any of the other age groups, and consequently we must assert that this group, on the age basis, should be looked upon as somewhat inferior anthropometrically. At this point it should be emphasized, however, that since all our girls were selected on the basis that they were presumably in good health, this fact is not *a priori* evidence that we are dealing with a group of young girls pronouncedly abnormal physically.

It hardly seems justifiable to enter into a further discussion of the physical relationships existing in these groups, especially that between height and weight and the computed body surface area. (The data for the average body surface area of our groups of girls may be found in Table X.) We believe the evidence is sufficient to show that our groups of girls are in all cases of a type fairly representative of normal young girls, that among the various groups the group aged 14 years, 1 month, exhibits greater defections from the superstandard, such as the private schools, than any of the others, and hence, on the private school basis, and considering age-weight and age-height relationships may be looked upon as being somewhat inferior physically to our other age groups. Upon direct comparison of height for weight, however, a comparison that we believe is physiologically sounder than that of weight for age or height for age, it can be seen that all of our groups lie, for the most part, midway between the two standard series, and the seeming anthropometric inferiority previously noted with the group aged 14 years, 1 month (44.2 kgs.) disappears on this more logical basis.

PULSE RATE.

An examination of the earlier literature shows little of positive value with regard to the normal pulse rate of young girls lying quietly at rest. Most of the studies of the pulse rate of children have been made either in the hospital ward or in the physician's office, and in these instances the pulse rate might easily have been influenced by the factor of previous illness or by psychical disturbances. The difficulties of securing accurate records of pulse rate with young children have been pointed out in an earlier publication.[17] Bearing in mind all of the objections and difficulties there raised, we attempted to measure the pulse rate of these groups of girls. Since the measurements could be made in the morning, about 7 o'clock, upon twelve normal girls who had been lying quietly for several hours before, who had become accustomed to the environment, and were not unduly excited or agitated, we felt that pulse records obtained under these conditions would more nearly approximate the physiological normal. The difference in pulse rate when the child is awake and asleep is also a factor to be considered, but in practically all of our observations the girls were awake. In the evening prior to retiring the girls were cautioned to lie quietly in the morning until the pulse was counted. While this requirement was not strictly adhered to in every instance, in the large majority of cases it was fulfilled most satisfactorily.

Before discussing the group results, the influence of repeated experiences in the respiration chamber upon the basal pulse rate is worth recording. Seven of the girls were present in two or more tests, and for these girls we have given in Table VI the pulse rates noted in each of these tests. Since the pulse rate was counted by two different observers, a period of approximately five or six minutes intervening between the first and the second count, the table shows both these counts. In five of the seven cases the lowest pulse rate was *not* found on the first day, thus speaking for a slightly greater psychical disturbance on the first day. Since most of our subjects participated in only one test, this would mean that in all probability our values for pulse rates, as recorded on the first day, are a little higher than they would have been, had the girls been more accustomed to the entire routine. The possibilities of rather rapid, inexplicable changes in pulse are shown with subject No. 44, whose pulse rate on April

TABLE VI.—PULSE RATES OF GIRLS STUDIED ON TWO OR MORE NIGHTS.

Subject number[1]	Jan. 24		Feb. 14		March 20		April 10	
	First count	Second count	First count	Second count	First count	Second count	First count	Second count
1	87[2]	90[2]	91[3]	92[3]	—	—	—	—
35	88	82	80	76	—	—	76	78
36	84	81	74	74	—	—	—	—
39	80	77	—	—	70	74	73	78
38	68	62	70	—	—	—	—	—
46	82	85	—	79	71	70	—	—
44	96	87	—	—	76	76	98	94

[1] Subject numbers underlined represent girls who have *not* reached puberty; [2] Obtained January 3; [3] Obtained January 10.

10 was nearly 20 beats higher than on March 20. At the time of taking the pulse no particular explanation could be given for this. It seemed inadvisable to cause possible apprehension and disturbance by taking the temperature or making special comment on it, but we have no reason to suspect a febrile state.

The detailed pulse records, first and second counts, for the entire series of observations are given in Table III, along with the data for the ages, weights, and heights for the several age groups. Average values for the first and second counts are likewise recorded. A general inspection of these data shows that the differences in pulse rate between the two counts are very pronounced in many instances, while in many others almost no differences are to be observed. It was impossible for us to attempt to correlate with these different readings any crude observations as to psychical state (degree of suppressed excitement, the influence of the novelty of the situation and of the observation of pulse countings upon other girls, etc.), but every effort was made to minimize these factors by previous, repeated instructions the evening before, when the girls were cautioned to lie quietly in the morning with no muscular movements. In spite of these instructions, it is obvious that some degree of interest obtained. Under these conditiions one would normally expect to find that the second count was on the whole a little lower than the first, since the novelty of the first count would have helped somewhat in adding to the experience. An inspection of all the records shows that in 36 cases the pulse rate was lowest in the first count and in 60 cases lowest in the second count, while in nine cases no difference was observed between the two counts.

Of greatest importance, however, is the average pulse rate for the group. Whatever individual differences may occur, the average pulse rate should be not far from that to be expected with a group of young girls lying quietly in the morning. These average minimum pulse rates, together with the ranges in minimum pulse rate, have been summarized in Table VII. The average values were obtained from the pulse data in Table III, the lowest records, whether found in the first or second count, being averaged for the several girls in each group. Considering, first, the range in minimum pulse rate, it is clear that there are differences between the girls in the several groups approximating on the average nearly 30 beats. The absolute maximum difference is 39 beats, noted on March 13, and the minimum difference is 17 beats, noted on March 6. These ranges speak for the striking differences noticeable in young children. The average minimum pulse rate for the several groups is, however, of most interest to us. A nexamination of Table VII shows that the highest record was 83 beats per minute with the 15-year-old group, and the lowest record was 71 beats with the 16-year-old group. No special range or average value seems to be at all correlated with the age, although it would appear as if the high value for 15 years was somewhat unusual.

TABLE VII.—AVERAGE MINIMUM PULSE RATES OF GIRLS[1] 12 TO 17 YEARS OF AGE.
(Records obtained between 6.30 A.M. and 7.00 A.M.)

Date	Average age[2]	Minimum pulse rate	
		Range	Average
1920	yrs.		
Jan. 3	17	58 to 89	74
Jan. 10	16	59 to 91	71
Jan. 17	15	60 to 96	83
Jan. 24	14	62 to 99	80
March 20	14	67 to 88	76
April 10	14	66 to 94	76
Feb. 14	13	56 to 94	79
March 13	13	53 to 92	74
March 6	12	73 to 90	81

[1] The pulse rates of eleven girls were studied on January 17, March 20, and April 10; 12 girls on all other dates.

[2] All girls in the 15, 16 and 17 year old groups had reached puberty; none of the girls studied on April 10 and March 13 had reached puberty; five girls on January 24, two on March 20, four on February 14, and 11 on March 6 had *not* reached puberty.

It will be noted that there are three dates when 14-year-old groups appear and two dates when 13-year-old groups appear. These were days on which tests were made with the special object of securing evidence with regard to the influence of the prepubertal and the pubertal state upon metabolism. While, with the fluctuations in pulse rate noted with individuals, a careful analysis of the influence of puberty is hardly possible with so few groups as this, it is of interest to compare the pulse data for the three groups of 14-year-old girls. Thus, with the group studied January 24 comprising seven girls who had begun to menstruate and five who had not, the pulse rate was actually a little higher than it was with the other two groups, namely, the group of March 20, comprising nine girls who had begun to menstruate and two who had not, and that of April 10, representing 11 girls, none of whom had reached puberty. With the two groups of March 20 and April 10 the pulse rates are identical, and since none of the girls of April 10 had attained puberty, while the majority of the girls of March 20 had attained puberty, no influence of menstruation or development to the point where menstruation had begun can be said to hold with regard to the pulse rate. The value of 80 beats on January 24 is, to be sure, a little higher than the two values of 76 beats on March 20 and April 10, respectively, but obviously no specific influence of the pubertal state can be ascribed to this average. Of the two 13-year-old groups that of March 13 was composed only of immature girls, while that of February 14 included four girls who had not reached puberty. The average pulse is somewhat higher for the February 14 group, 79 as against 74. In consideration of the findings with the 14-year-old groups it seems quite impossible to ascribe the higher pulse rate on February 14 to the fact that eight of the 12 girls in the group had reached puberty. Little, if any, positive information can be drawn with regard to the influence of puberty upon the pulse rate from an examination of the values for the range.

To sum up, then, our data show the following average minimum pulse rates for resting girls. 74 beats at 17 years, 71 beats at 16 years, 83 beats at 15 years, 77 beats at 14 years, 77 beats at 13 years, and 81 beats at 12 years. The last value of 81 beats at 12 years may be compared with the average value of 75 beats for the three 12-year-old girls studied by Benedict and Talbot. (See Table II.)

The records in the earlier literature on the pulse rate of children are subject to all the difficulties attending pulse measurements that we have mentioned. Many writers do not even differentiate between girls and boys. Consequently a direct comparison of the earlier data with these new records obtained on our girls while quietly resting is questionable. Katzenberger,[18] in 1913, collected practically all of the earlier literature on the pulse rate of children, and likewise included a large number of observations of his own. His own average values for girls at the ages in which we are particularly interested are as follows: 87 beats at 12 years, 82 beats at 13 years, and 86 beats at 14 years. These values are all considerably higher than ours, *i.e.*, 81, 77, and 77 beats, respectively.

(To be continued.)

Book Review.

A Physician's Anthology of English and American Poetry. Selected and arranged by CASEY A. WOOD, M.D., and FIELDING H. GARRISON, M.D. Oxford Universty Press. 1920.

Of the many tributes offered to Sir William Osler on his seventieth birthday, none could have procured him more intimate delight than this little volume, presented to him in manuscript form. The duty and the love that men bore him could hardly have been gathered into a garland of friendship, fresher, more choice than this. These radiant and triumphant songs in the English tongue form, in this new context, a "recordatio" or vivid remembering of him who, in the flesh, died at Oxford but in spirit remains, an ageless witness of the integrities that bind man to man, "the great humanist of modern medicine, the friend, inspirer, and encourager of youth, in whom the poet did not die young." Dr. Garrison's felicitous "Foreword" on Osler and the uses of the poetic spirit cannot fail to strike the liberal and gentle mind as consonant and supremely fitting. Throughout the compilation, a rare ear for music, for numerosity, and a fine gift of selection, is shown. Following a well-considered sequence from "Youth" through "Senectute" to "Divina Mors" man's hopes, needs, beliefs, loves are here in brief, expressed with all the majesty, high manner and charm of which he, as poet, is capable in his brightest and best moods. What more could be set within the narrow limits of a bibelot of this size? It was a happy thought on the part of the editors to issue the work through the Oxford University Press, for Dr. Osler had been, for some years before his death, one of the overseers of that press and was deeply interested in its past history and present operation.

The present collection is devoted neither to poetry by medical men nor to poems on medical subjects, as is stated in the Foreword. Selections range from Shakespeare and Ben Johnson to Yeats, Brooke and Sassoon.

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We regret that in the issue of the JOURNAL for February 24, in a review of "Massage and Exercises Combined" the names "Brooks and Porter" were mentioned as the publishers instead of the author, Albrecht Jensen, Box 73, G. B. I., New York City.

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THE TYPHUS SITUATION.

In view of the extraordinary publicity given the typhus situation at the port of New York and the erroneous impression created by some of the representations, the following statement of the facts has been made by Surgeon-General Cumming of the U. S. Public Health Service.

The menace to this country from the introduction of typhus from Europe is not of recent development and is no greater today than it was six months ago. Even before the armistice the Surgeon-General recognized the potentialities of the disease spreading to the United States if adequate precautionary measures were not taken when immigration was resumed. During the past year, medical officers of the Public Health Service have been stationed at American Consulates at chief European ports of embarkation to supervise measures to be applied against ships and passengers for the prevention of the spread not only of typhus but also of plague and cholera. While the measures enforced at the European ports have by no means been perfect, their value is indicated in the fact that several hundred thousands of immigrants have come from typhus-infected areas on several hundred ships and that out of all this number typhus infection occurred only on eight vessels. With the exception of the *Presidente Wilson,* which arrived at New York on February 1, infection on the ships was detected by the quarantine officer at New York and effective precautionary measures applied. Upon arrival of the *Presidente Wilson* at New York, there were three cases in the sick bay of what the quarantine officer diagnosed as bronchopneumonia but which later proved to be typhus. The doctor was experienced in the detection of typhus, but the cases presented no eruption and the mistake was by no means inexcusable. Still under the custodial care of the immigration authorities, the sick people were sent to the Long Island College Hospital which takes care of sick immigrants, and the correct diagnosis later became apparent. Fortunately the error was discovered before the other passengers in the steerage were released, and the vessel and the immigrants were remanded to quarantine and appropriate treatment applied to prevent the spread of infection. The incident was unquestionably deplorable, but it indicated neither a breakdown of the New York quarantine station nor any unreasonable laxity.

The system of quarantine protection developed by the Public Health Service consists of a double line of defense, first, the medical officers of foreign ports who supervise preventive measures specified in the United States Quarantine Regulations, and second, the facilties at United States quarantine stations. If infection evades the first barrier, the ship still has to undergo inspection and treatment at her American port of arrival.

Several weeks before the arrival of the *Presidente Wilson,* the Surgeon-General had taken very definite steps to strengthen the quarantine defense at European ports by having the American consular officials instructed, through the State Department, to withhold bills of health from vessels whose passengers had not been satisfactorily disinfected. As early as January 17, quarantine officers at Atlantic ports were advised that on account of the unsatisfactory delousing procedure carried out at Danzig, all passengers arriving at their ports should be held in quarantine and treated for the destruction of vermin. It must, therefore, be evident to any fair-minded person that the federal health authorities have been most diligent in carrying out anti-typhus measures, and that any statement that either the Federal Health Service or the State officials of New York have been derelict or indifferent to the typhus situation is obviously untrue. Nevertheless, administrative efforts of this sort cannot be expected to be perfect or to eliminate mistakes by individual officials.

Typhus is not transmitted by lice in general, but only by lice that have previously bitten persons infected with typhus. A louse is by no means an exotic insect, as one might infer by some of the interviews in New York papers. It is widespread throughout the United States, but is found chiefly in the slum districts of large cities. In the absence of typhus it is of no sanitary significance or danger so far as the present situation is concerned. Typhus fever develops in four to twelve days, and it is readily apparent to any trained sanitarian that if cases do not develop within this period it can safely be asserted that the infection is not present. This applies particularly to overseas vessels that have been out twelve days or more.

Much confusion has resulted from the statements in newspaper interviews in New York City as to responsibility of the Immigration Service at Ellis Island for the exclusion of typhus fever. Immigration officials are not vested with any authority for administering quarantine laws. Furthermore, they have no equipment for enforcing quarantine measures —naturally so because they have control over aliens and not over citizens of the United States, although the latter returning from Europe are just as serious a menace from the typhus standpoint as is an alien. It is true that Ellis Island has always proved a valuable line of second defense for the port, but the responsibility for the exclusion of typhus and other quarantinable diseases rests solely upon the quarantine authorities. As a matter of ordinary decency and personal hygiene, delousing facilities should be provided at Ellis Island, but since the prevention of the introduction of typhus relates to returning citizens as well as to aliens, the quarantine station is the one place where effective preventive measures can be carried out.

As to the statement that "one infected immigrant might spread a plague that would cause a million deaths in six weeks in New York," it is interesting to note that, while not generally known, typhus fever has existed in New York City for years. About 1910 Dr. Nathan Brill recorded a series of somewhat less than 200 cases which he had observed in the previous ten years, and during 1911, 34 such cases occurred in New York City, and others have occurred from time to time since that date. For the most part they were of isolated occurrence and indicated that conditions in New York City were not conducive to any serious spread of the infection. Goldberger and Anderson of the U. S. Public Health Service, in 1911, demonstrated by laboratory tests that the so-called "Brill's disease" was identical with Old World typhus; that the clinical manifestations were very similar but much milder in type, that the disease was transmitted by the louse in the same way as the Old World typhus, and while not so virulent, sometimes resulted fatally.

MEDICAL NOTES.

U. S. PUBLIC HEALTH SERVICE HOSPITALS IN PENNSYLVANIA.—Plans prepared by the U. S. Public Health Service, and about to be put into effect, will largely increase the hospital facilities for ex-service men in Pennsylvania, particularly at Pittsburg and Philadelphia.

At Pittsburgh the capacity of the Marine Hospital (No. 15) will be trebled at first by the addition of a dozen portable buildings of approved type, and later, when Congress appropriates the necessary money, by new and permanent brick and tile construction. At present funds are available for the erection of portable temporary buildings only. The importance of Pittsburg and the growing demand on the Government hospital facilities there make these additions imperative.

At Philadelphia the U. S. Public Health Service has recently acquired from the Navy a large hospital for the care of ex-service men suffering from nervous and mental diseases. Its capacity is between 400 and 500. Recent heavy demands for accommodation by this type of patients have conclusively shown the need for this hospital, which it is hoped may become permanently devoted to its present use.

U. S. PUBLIC HEALTH SERVICE AND THE RUTLAND SANATORIUM. — The model tuberculosis sanatorium nearing completion at Rutland, Massachusetts, originally established by the New England Sanatorium Association, has been leased for a term of years by the U. S. Public Health Service. Within two months it is expected that the sanatorium will be able to accommodate one hundred patients and it will ultimately care for 300. The plans under which the sanatorium is now being enlarged have been approved by the U. S. Public Health Service and by the architect of the National Tuberculosis Association on duty with the Public Health Service. The finished building will be the latest work in modern tuberculosis construction, the surroundings are ideal, and the tuberculosis service men who will shortly fill this hospital will be assured of the best that modern science can provide.

IMPROVEMENTS IN GOVERNMENT SANATORIA.—The eminent tuberculosis specialists who at the request of Surgeon-General Cumming of the U. S. Public Health Service, have been visiting the tuberculous hospitals of the Service "to see that every one of the 20,000 tuberculous ex-service patients shall have the best treatment to be had in any hospital in the land," have completed their task and have submitted their suggestions.

Steps to put into effect their suggestions were immediately taken, and are already in operation in part. The new developments will entail some additional expense and additional employment of personnel. The specialists, Dr. David Lyman of Wallingford, Conn.; Victor Cullen of the Maryland State Sanitarium, Martin E. Sloan of Towson, Md., George Thomas Palmer, Springfield, Ohio, and Henry Hoagland of La Jolla, California, represent the highest ideals in the tuberculosis sanatorium management and their suggestions, when carried into effect, will provide the very best type sanatoria.

LIBRARIES IN PUBLIC HEALTH SERVICE HOSPITALS.—The fact that the sundry civil appropriation bill, reported to the House of Representatives, appropriates $100,000 for the purchase of library books, magazines and papers for beneficiaries of war risk insurance will be welcome news to military patients in Public Health Service Hospitals. The American Library Association, which still administers the libraries in the larger hospitals, is embarrassed financially and has to be assisted by other organizations. The new appropriation saves the situation; but, unless it is made available immediately instead of not until July 1, as is customary, reading matter will necessarily be at a premium in all hospitals caring for soldier patients.

MENTAL PATIENTS IN PUBLIC HEALTH HOSPITALS.—The congestion in the neuropsychiatric hospitals of the U. S. Public Health Service throughout the country has been brought out by the necessity of transferring 30 military patients from the big Service Hospital on Gray's Ferry Road, Philadelphia, to make room for other patients who had greater claims on its facilities. By the time the transfer could be carried out the hospital was again crowded to capacity. The Service is now caring for 5,910 neuropsychiatric patients, and the number is steadily increasing. Search is being continually made by official and non-official organizations for buildings that might be leased by the Service for hospitals. Such, however, have proved to be few and far between, and the necessity of building those needed is daily becoming more and more apparent. It is the policy of the Public Health Service to provide for all neuropsychiatric patients. in its own hospitals instead of in contract hospitals; but until proper buildings can be had this is impossible.

BOSTON AND MASSACHUSETTS.

WEEK'S DEATH RATE IN BOSTON.—During the week ending March 5, 1921, the number of deaths reported was 217 against 294 last year, with a rate of 14.97 against 18.97 last year. There were 30 deaths under one year of age against 34 last year.

The number of cases of principal reportable diseases were: Diphtheria, 60; whooping cough, 23; scarlet fever, 61; typhoid fever, 5; measles, 77; tuberculosis, 43.

Included in the above were the following cases of non-residents: Diphtheria, 3; scarlet fever, 4; tuberculosis, 6.

Total deaths from these diseases were: Diphtheria, 2; whooping cough, 3; scarlet fever, 1; measles, 2; tuberculosis, 21.

Included in the above were the following non-residents: Diphtheria, 1; tuberculosis, 4.

Encephalitis lethargica: cases, 9; death, 1.

Correspondence.

ANTI-VACCINATION PROPAGANDA IN THE PRESS.

Mr. Editor:—

In the current (26 February, 1921) number of *The Cambridge Tribune*, costing ten cents for eight pages, is an editorial entitled "Are We a Free People?" which suggests that in some respects we are even too free, for it tends to subvert the laws of the Commonwealth in regard to the required vaccination of school children.

Did this same near-viewing editor advise his readers (even if not more numerous than those of any other New England journal) that it is right to spit on the subway platforms, or to drink alcohol denatured with "methylated spirits," or to cough and sneeze in the faces of people in a crowd, or that mussels and clams from the South Cove are excellent food, even if eaten raw, or that heroin may be properly taken for backache, he probably would be squelched sooner or later. Yet he is allowed to print deluding statements, like the following, unmolested.

> "But there is in this Commonwealth a large and constantly growing number of law-abiding citizens who have good reason for being opposed to vaccination if it is to be practiced on themselves. They are not guided by a whim and they are people of at least the average intelligence. Their position comes about through their positive conviction, gained, in many instances, through hard experience.
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> "Now very naturally they object to being vaccinated or having their children vaccinated against their wills. And in this they are supported by a very respectable number of the medical profession. In this connection it looks very much as though the pro-vaccinationists lacked a sense of humor, when they insist on the efficacy of their treatment as a preventive measure, and yet admit that this preventive efficacy vanishes into nothingness (we almost said native nothingness) when they are exposed to on unvaccinated person.
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> "But the main point is this: Are we a free people? If so, then we will no longer assent to be autocratically governed by any system which compels one to accept any particular medical system as an essential to admission to the public schools. We trust that the Legislature will give this feature of the case due consideration."

This man either knows nothing of the history of smallpox on this earth, and nothing of the vaccination statistics, or else he puts his narrow prejudice against the common health. How eloquent a well-informed orator could be on this matter!

How unfortunate for the education campaign that is trying so variously and so strenuously to show the public how to be healthy and how to live long! It has to "buck" not only ignorance but prejudice—the blindness that simply will not see, or seeing, refuses to admit the vision.

An old, trite story certainly is this, but one that is liable to be of practical importance to multitudes at any time, even here in Boston.

GEORGE V. N. DEARBORN.

Boston City Hospital.

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PHYSICIANS AND THE TELEPHONE.

Mr. Editor:—

With the recent edict of the N. E. T. & T. Co., to compel physicians to pay for their telephone service at business rates instead of residential, it is well to have the question threshed out: Are we physicians really business men or professional men? Until now, the N. E. T. & T. Co., with the rest of the world, considered us a professional class, whose profession, the practice of medicine, was on a par with the profession of the clergy, of the literary man, of the teachers and educators, who are still enjoying the privileges of lower residential rates. Why this sudden change, this additional burden on our already quite overburdened shoulders? Is the medical profession going to submit to this arbitrary ruling meekly without a protest? Of course the individual physician has no other choice but to submit to it and thank the Lord that, in its wisdom and charity, the N. E. T. & T Co. is not demanding from us the payment of the difference in rates for all these past years during which, undoubtedly under false pretenses, we have enjoyed the privileges of professional men. A telephone nowadays has become a primary necessity, especially in the physician's home, and no doubt we should have to submit to such a demand.

But what an individual cannot do, an organization must. It seems to me that it is the duty of the Massachusetts Medical Society, the organized body of physicians in this state, to protect its members against such unjust extortion on the part of a most powerful monopolistic corporation. A hearing before the proper authorities should be at once demanded and our viewpoint presented and defended.

To submit to such an arbitrary rule without a protest before the proper authorities would be cowardice and a lack of self-respect on our part.

DR. M. J. KONIKOW.

Roxbury, Feb. 25, 1921.

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NOTICES.

MASSACHUSETTS GENERAL HOSPITAL.—The fifth monthly meeting of the out-patient staff will be held in the Lower Out-Patient Amphitheatre at 12 Noon, Wednesday, March 23.

"The Correlations between X-ray Findings and Clinical Signs in Diseases of the Chest." by Dr. George W. Holmes and Dr. John B. Hawes, 2nd.

Staff Clinical Meeting—Lower Out-Patient Amphitheatre, Monday, March 28, 1921, 8 P.M.

"Some Results of the Operative Treatment of Cancer of the Stomach Breast, Rectum and Uterus at the Massachusetts General Hospital." By Dr. C. L. Scudder, Dr. R. B. Greenough, Dr. D. F. Jones and Dr. Lincoln Davis.

Dr. F. G. Balch will preside.

Staff Clinical Meeting—Lower Out-Patient Amphitheatre, Monday, April 11, 1921, 8 P.M.

"Results of Neurological Surgery at the Massachucetts General Hospital." By Dr. W. J. Mixter and Dr. George Clymer.

Doctors, nurses and medical students cordially invited.

F. A. WASHBURN, M.D., *Resident Physician.*

NEW ENGLAND ASSOCIATION FOR PHYSICAL THERAPEUTICS—The next regular meeting of the New England Association for Physical Therapeutics will be held on Tuesday, March 22, 1921, at 8 o'clock, at the Hotel Victoria, 271 Dartmouth Street, corner Newbury Street, close by Copley Square Station, Boston.

The subject of the evening will be a talk by Dr. Byron S. Price, 17 East 38th Street, New York City. His talk will probably be on the use of x-rays on glandualr tissue, as Dr. Price has done considerable on the removal of tonsils by x-ray.

Tables will be reserved for table d'hote dinner in the grill room, Hotel Victoria, at 6.30 P.M.

L. B. HAYDEN, *Secretary.*

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MARRIAGE.

Announcement has been made of the marriage of DR. GEORGE WOODWORTH LOUGEE to Miss Florence G. Morse on February 21, 1921.